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# PERSONNEL RESEARCH SERIES

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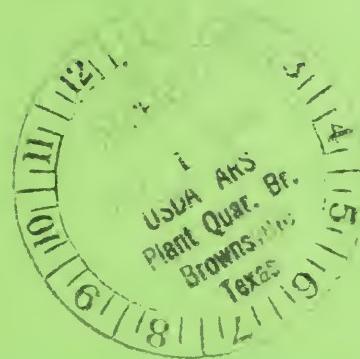
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## RECALL OF CRITICAL INCIDENTS



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RECALL OF CRITICAL INCIDENTS

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United States Department of Agriculture

Washington, D. C.



## SUMMARY AND HIGHLIGHTS

What is the relationship between the number of critical incidents recalled and the number of months before the time of reporting that the incidents occurred?

To answer that question we tabulated critical incidents reported as having occurred one to twelve months before the collection date: approximately 800 from Personnel Officers GS 12 through 15, 700 from Data Processors GS 5 through 15, and 1,000 from Plant Quarantine Inspectors GS 5 through 13. These included incidents of both effective and ineffective behaviors in the general areas of "technical competence" and "working with others." Typically, between six and seven incidents were obtained from each contributor.

When the number of incidents reported for the immediately preceding six month period was compared with the number that occurred seven to twelve months ago, in each group, the superiority of yield for the more recent period was 156% to 400%.

These results show why biases, irritations, and frustrations are induced by the typical performance appraisal, that requires the supervisor to try to remember for all of his subordinates, all of their important performances, for all of a year. The use of Performance Records to make note of critical incidents as they occur, such as are being developed for USDA occupations, help to ameliorate those conditions.



Albert S. Glickman  
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## RECALL OF CRITICAL INCIDENTS

Introduction

During a work day a person will perform many different acts in his job. Some acts will advance accomplishment of the job; other acts will have the opposite effect. Specific examples of behaviors that contribute significantly to effective or ineffective accomplishment of a job have been called critical incidents.<sup>1</sup>

A method of determining the critical requirements of a job or occupation is to collect reports of critical incidents from people directly involved in the work. Employees, supervisors, or others who are in a position to make direct observations are asked to cite specific occurrences that led to effective and ineffective accomplishment of the job. To encourage adequate coverage and representativeness, respondents may be requested to cite examples for particular categories such as "technical competence" and "working with others." For each incident, the respondent tells what the individual concerned was doing at the time, what happened, and what the consequences were. Information on the nature and level of the jobs held by the persons involved and how long ago the incident occurred is also requested when desired for analysis. The anonymity of all persons involved in the incidents as well as the respondents is maintained.

This report presents the results of an inquiry into the effects of the passage of time upon the recall of critical incidents, viz. the

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<sup>1</sup>Flanagan, John C. The Critical Incident Technique. Psychological Bulletin, vol. 51, no. 4, July 1954, pp. 327-358.

relationship between the number of critical incidents reported and the number of months since the incidents occurred.

#### Collection of Incidents

The Personnel Research Staff (PRS) and representatives of the following occupational groups are currently engaged in critical incident studies: (1) General Foresters; (2) Plant Quarantine Inspectors; (3) Soil Conservationists; (4) Data Processors; and (5) Personnel people.

Representative samples of respondents from each of these occupational groups were asked to give two effective and two ineffective incidents in each of two areas, "job or technical competence" and "working with others"; eight incidents from each respondent. Sometimes a respondent could not think of an example for one of the categories, and hence the average yield per respondent was between six and seven incidents. Additional information was requested on the job duties of the people involved in the incidents as well as of the respondents.

Respondents were told that the incidents and background information were being collected for research purposes. Almost all incidents were collected during 1963. Three of these occupational groups, Plant Quarantine Inspectors, Data Processors, and Personnel, requested information as to the number of months before the time of reporting that the incident occurred. The remainder of this report analyzes the relationship between the number of incidents recalled and the number of months before the time of reporting that the incidents occurred, for these three occupational groups.

### Description of the Groups

#### Personnel

The Personnel group included GS 12s through 15s in the following series:

- 201 - Personnel Administration
- 212 - Placement
- 221 - Position Classification
- 223 - Salary and Wage Administration
- 230 - Employee-Management Relations
- 235 - Employee Development

A near 100 percent sample of people in the above classifications was obtained. Although the Personnel group is most heavily concentrated in the Washington, D. C. area, some are in each region of the United States. Approximately 800 incidents were collected by a representative of the workgroup of agency personnel officers participating in this project.

#### Data Processors

Included in this group were GS 5s through 15s in the following series:

- 330 - Digital Computer Systems Administrator
- 331 - Digital Computer Programming
- 332 - Digital Computer Systems Operation
- 334 - Digital Computer Systems Analysis
- 359 - Electric Accounting Machine Operating
- 362 - Electric Accounting Machine Project Planning

A near 100 percent sample of people in the above classifications was obtained. Approximately 700 incidents were collected by either personnel

people or by persons designated to serve as liaison between the Data Processing workgroup and the Data Processors.

#### Plant Quarantine Inspectors

Included in this group were GS 5s through GS 13s in Plant Quarantine Inspection (GS-436). Approximately 50 percent of people in this classification were included in this sample. Plant Quarantine Inspectors are stationed at geographically scattered points of entry into the United States. Some incidents were collected by personnel officers using a group interview. More remote points of entry were reached by mailing out incident forms and instructions. A greater proportion of the incidents were collected from inspectors at the major ports such as New York and New Orleans. A total of about 1,000 incidents were collected.

#### Analysis of the Incidents

Each respondent was asked to think back over the past year and recall occasions when he saw an employee do things particularly well or poorly. For each occupational group a tabulation was made of the number of months ago that the incident occurred. From what is known of human memory one would expect that the more recent incidents would be remembered more readily than incidents occurring at earlier times.

A coding scheme had to be devised for tabulating those responses that were not numerical (e.g. some respondents indicated that an incident occurred a few or several months ago). This coding scheme is given in Appendix A.

Some respondents reported incidents that occurred longer than a year ago. Incidents were tabulated as having occurred for each of the preceding twelve months, plus two additional categories for more than

twelve months and for no response. These tabulations of effective, ineffective, and total incidents for each group are listed in Appendix B. Since there was no discernible systematic difference in the recall of effective and ineffective incidents, "total incidents recalled" were counted for each of the twelve months prior to reporting.

Inspection of the tabulations in Appendix B shows that the respondents had a marked preference for certain numbers when reporting the number of months ago that the incident occurred. The numbers one, two, three, six and twelve were most frequently used. In order to iron out the effects of this number preference, comparisons were made of the percent of incidents reported as occurring during the more recent six month period versus the earlier half year. These numerical comparisons are given in Exhibit 1 and are displayed graphically in Exhibit 2.

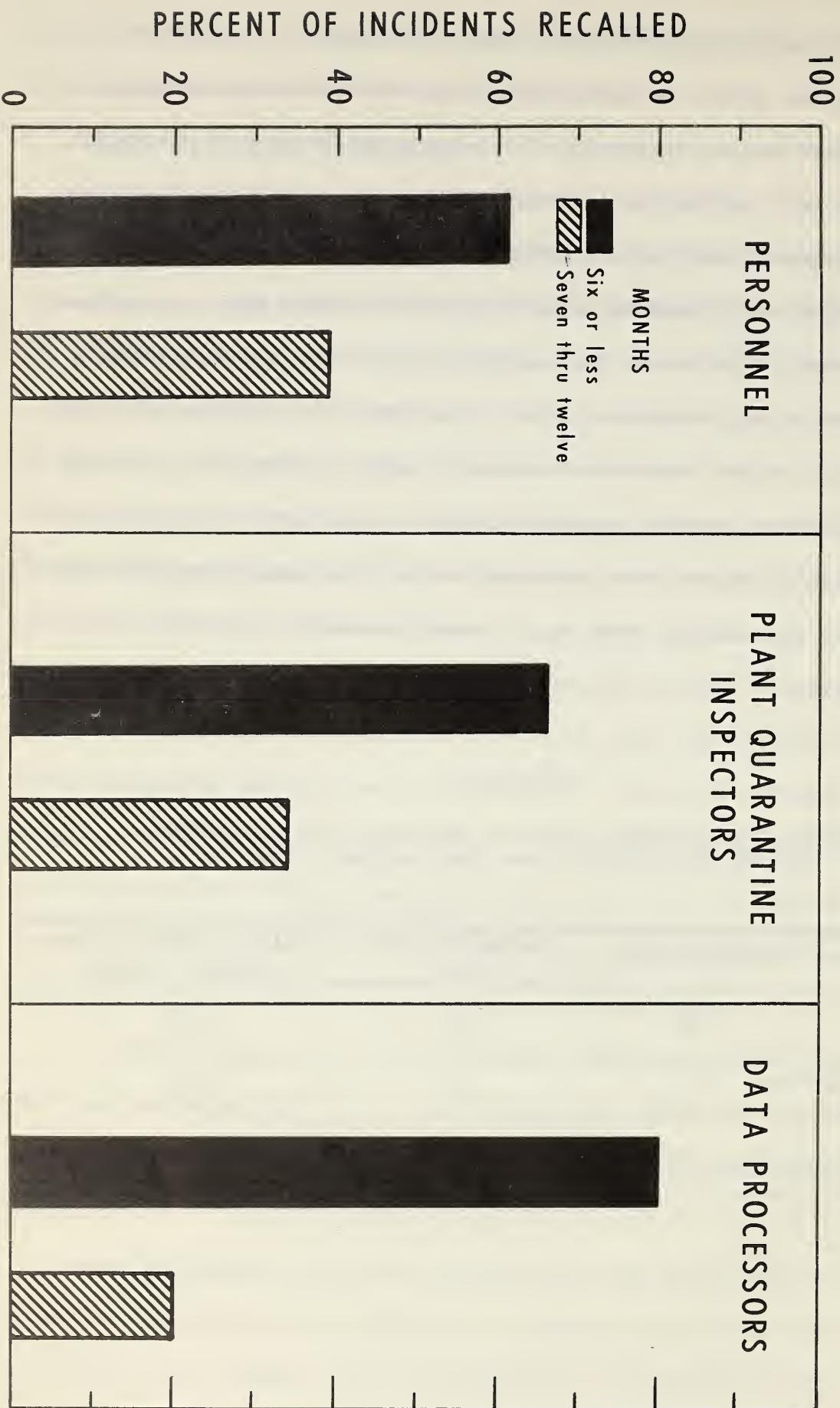
#### Exhibit 1

Percent of Incidents Recalled Compared With the Number of Months Elapsed Since the Incident Occurred

	Six or Less	Seven Through Twelve	Ratio of More Recent to Earlier Period
Personnel	61	39	1.56
Plant Quarantine Inspectors	66	34	1.94
Data Processors	80	20	4.00

Exhibit 2

GRAPHIC DISPLAY OF PERCENT OF INCIDENTS RECALLED  
COMPARED WITH THE NUMBER OF MONTHS ELAPSED  
SINCE THE INCIDENT OCCURRED



Inspection of Exhibits 1 and 2 indicates that the greater number of incidents are recalled from the six month period immediately preceding the date of reporting. For Personnel people approximately one and one-half times as many incidents were recalled from the immediately preceding six month period as from the earlier six month period. For the Plant Quarantine Inspectors almost twice as many incidents were recalled from the more recent six month period. For the Data Processors, four times as many incidents were recalled from the immediately preceding six month period.

#### Discussion of Results and Recommendations

It is consistently clear that over a one year reporting period many more incidents are recalled from the six month period immediately preceding the reporting date than from the earlier six month period. These results are consonant with the results obtained in an industrial setting.<sup>2</sup> This study showed that when incidents were recorded on a weekly basis, they were only half the number that were recorded on a daily basis, and at the end of a two-week period only one-fifth as many incidents were recorded.

Imagine now a supervisor at appraisal time who must take time out from his work to try to remember what all of his supervisees have done during the past year. It is not surprising that many supervisors not only find this procedure frustrating and irritating but feel that they cannot formulate useful judgments. Small wonder then that many

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<sup>2</sup> Flanagan, J. C. & Burns, R. K. 'The Employee Performance Record'. In Whisler, L. L. & Harper, S. F. Performance Appraisal: Research and Practice. New York: Holt, Rinehart & Winston, 1962.

supervisors develop a negative attitude towards the entire appraisal procedure and tend to shy away from it rather than try to make it a positive contribution to the supervisor-supervisee relationship.

A report dealing with the steps involved in the collection and analysis of critical incidents as well as their utilization in a Performance Record system, in which incidents are recorded as they occur, will be forthcoming in this Personnel Research Series.

A P P E N D I X      A



Coding Scheme for Non-Numerical Responses to the Question

'About How Many Months Ago Did the Incident Occur?'

1. When more than one alternative is given, e.g. 5 or 6, choose the number representing the longest period of time, i.e. 6 in this example.
2. Score several as six, a few as three.
3. Whenever a period of time is specified try to score the response for that period. Thus, score:





A P P E N D I X      B



## Exhibit 3

Number of Months Elapsed Since the Incident Occurred

	1	2	3	4	5	6	7	8	9	10	11	12	13 or more	No Response
<u>Personnel</u>														
Effective	46	31	46	24	10	57	12	28	18	21	6	53	28	30
Ineffective	67	34	24	30	17	57	14	29	11	23	15	48	32	31
Total	113	65	70	54	27	114	26	57	29	44	21	101	60	61
<u>Plant Quarantine</u>														
<u>Inspectors</u>														
Effective	67	67	45	40	23	49	6	28	19	31	13	48	58	31
Ineffective	82	61	41	46	33	72	12	35	14	34	21	54	80	37
Total	149	128	86	86	56	121	18	63	33	65	34	102	138	68
<u>Data Processors</u>														
Effective	62	53	49	31	26	33	12	18	7	9	1	17	9	28
Ineffective	73	42	46	31	24	50	9	12	7	11	6	23	7	30
Total	135	95	95	62	50	83	21	30	14	20	7	40	16	58





